

First contribution to the knowledge of the Ceratocanthinae (Coleoptera: Scarabaeoidea: Hybosoridae) from the Solomon Islands, with descriptions of five new species

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Abstract: The subfamily Ceratocanthinae Martínez, 1968 (Coleoptera Scarabaeoidea Ceratocanthinae) is recorded for the first time from the Solomon Islands, with the description of five new species of *Perignamptus* Harold, 1877: *Perignamptus kerleyi* sp. nov., *P. capitatus* sp. nov., *P. longepilosus* sp. nov., *P. mundaensis* sp. nov. and *P. rendovaensis* sp. nov. Each species is described and illustrated and an identification key to all discussed taxa is provided.

Key words: Taxonomy, New Georgia, Guadalcanal, *Perignamptus*.

Introduction

The fauna of Scarabaeoidea Latreille, 1802 (Coleoptera) of the Solomon Islands still remains largely unknown. It is not surprising therefore that no Ceratocanthinae Martínez, 1968 (Coleoptera Scarabaeoidea Hybosoridae) have been recorded from there until now (Ocampo & Ballerio 2006). Since 1995 the author has gathered several unpublished data on the Ceratocanthinae fauna of the Solomon Islands, mainly coming from the expeditions held in the years '60 of last century by Philip and Penelope Greenslade (e.g. Greenslade & Greenslade (1970)), by the Bernice Bishop Museum (Honolulu), again in the years '60, and, more recently, by the National Museum of Prague and other Czech entomologists. The aim of this first note is the description of five new species of the genus *Perignamptus* Harold, 1877. Additional species of Ceratocanthinae, belonging to other genera, will be described or recorded in future papers (in preparation).

Material and methods

Methods and terminological conventions follow Ballerio and Grebennikov (2016) and references therein quoted. The holotypes of the new species here described are deposited in the collection of The Natural History Museum (London, United

Kingdom). Label data are provided verbatim, with a slash to separate labels. Author's comments are in square brackets, while depository collection acronyms are in parenthesis unless otherwise stated. Photographs of the habitus were taken with a Canon EOS D5 MII with a macro objective MP 65 mm, while photographs of the male genitalia were taken with a Canon EOS D5 MII connected by a phototube to a Leica MZ 12.5 stereoscope. Multi-layer images were then assembled using Helicon Focus software and cleaned and unmasked using a photo processing software.

Acronyms of scientific collections used in the text:

ABCB – Collection Alberto Ballerio, Brescia, Italy;
BMNH – The Natural History Museum (formerly British Museum, Natural History), London, United Kingdom;
NMPC – National Museum, Prague, Czech Republic.

Other abbreviations:

EL – maximum elytral length;
EW – maximum total elytral width;
HL – maximum head length;
HW – maximum head width;
L – length;
PL – maximum pronotal length at middle;
PW – maximum pronotal width at middle;
W – width.



Results

Hybosoridae Erichson, 1847

Ceratocanthinae Martínez, 1968

Ceratocanthini Martínez, 1968

Perignamptus Harold, 1877

Perignamptus kerleyi sp. nov. (Figs 1 a, b, c, d, e, f, g, h, i & 6)

Holotypus ♂ deposited in the BMNH: Solomon IS., Guadalcanal, Mt. Austen, carrion trap / 24/8 1965, 19360, P. Greenslade/ Solomon Is., Pres. P. J. M. Greenslade, B. M. 1966.477/ *Perignamptus kerleyi* n. sp. det. A. Ballerio 1999, Holotypus ♂ / [dissected and glued on a card. Male genitalia glued in DMHF resin on a separate card, same pin].

Paratypes 5 specimens: Solomon IS., Guadalcanal, Mt. Austen / 7/3 1966, 22304, P. Greenslade/ Solomon Is., Pres. P. J. M. Greenslade, B. M. 1966.477/ *Perignamptus kerleyi* n. sp. det. A. Ballerio 1999, Paratypus ♀ / (BMNH); / carrion trap / Solomon Islands: Guadalcanal, Mt. Austen, 1936 / 24. VIII.65 P. Greenslade/ B. M. 1966.477/ *Perignamptus kerleyi* n. sp. det. A. Ballerio 1999, Paratypus ♂ / (ABCB); / Solomon IS., Guadalcanal, Mt. Austen / Feb. 1966, 1246 P. Greenslade / *Acanthocerus* gen. + sp. incog. R. Madge det. 1967 / Solomon Is., Pres. P. J. M. Greenslade, B. M. 1966.477/ *Perignamptus kerleyi* n. sp. det. A. Ballerio 1999, Paratypus ♀ / (BMNH); / Solomon IS., Guadalcanal, Mt. Austen, 19/II/1963/9954 P. Greenslade/ *Perignamptus kerleyi* n. sp. det. A. Ballerio 1999, Paratypus ♀ / (BMNH); Solomon Islands, Guadalcanal ca. 4,5 km S of Barana vill, forest nr., "Japanese camp & Moka river 09°30.3'S, 159°58.9'E, 275 m Jiří Hájek leg., 5.-6.-XII.2013 / *Perignamptus kerleyi* n. sp. det. A. Ballerio 2020, Paratypus ♂ / (NMPC).

Derivatio nominis: Noun in the genitive case of Latin. Patronymic, dedicated to Malcolm D. Kerley, former collection manager at BMNH.

Diagnosis: *Perignamptus kerleyi* sp. nov. can be easily differentiated from all other species of *Perignamptus* by the following combination of characters: a) metallic dark green color, b) elytra impunctate (50x), c) pronotal bead on fore margin complete and narrow, d) dorsal ocular area present, e) genal canthus present but not fused with occipital area of head, f) head surface with a longitudinal shallow line bordering internally dorsal ocular area, g) pronotum mostly impunctate with only few shallow horseshoe-shaped punctures basally and along sides.

Description of holotypus: HL = 0.80 mm; HW = 1.46 mm; PL = 1.30 mm; PW = 2.20 mm; EL = 2.16 mm; EW = 2.13 mm. Large-sized *Perignamptus*, flightless, shiny, metallic green (under artificial

lighting the color looks metallic bronze), antennae, tarsi and sternum reddish-brown. Dorsum glabrous (50x). Whole dorsum covered by sparse micropunctuation (visible only with at least 30x magnification). Head subpentagonal, wider than long (W/L ratio= 1.37), clypeus subtriangular, with sides smooth and gently curved and clypeal apex obtuse with a very short apical acute projection; clypeopleuron short, genae acute and slightly protruding outwards, genal canthus present and fused with occipital area of head, dorsal ocular area large, interocular distance about seven times the maximum width of dorsal ocular area. Ventral ocular area medium sized, elongate, visible only laterally, head dorsal surface smooth, apart from micropunctuation and apart from a longitudinal shallow line bordering internally dorsal ocular area, genal canthus with some longitudinal irregular shallow lines, and a few transversal shallow lines on fore margin. Antennae 10-segmented, scape slightly clavate distad, pedicellus rounded and abruptly bent forwards distally, flagellum made of short articles distinctly wider than long, antennal club three-segmented, uniformly hairy. Mouthparts. Distal epipharynx bisinuate, longitudinally divided by a strong anterior median process; median brush and corypha absent; apical fringe made of long, fine setae, absent in the middle. Mentum ventrally flat, widely emarginated in the middle, emargination regularly wide-U-shaped; labial palpi (including palpiger) four-segmented, first segment short and transverse, segment two short, segment three longer and plumper than preceding two together, segment four subconical, about as long as segment three, apically bearing some short sensilla, all segments, apart from the last one, fringed with long setae. Mandibles short, regularly curved, apicalis with pointed apical tooth very short and blunt, not protruding over mesal brush, lateral sclerite of apicalis bearing a distinct large pore, mesal brush wide and well developed. Pronotum wider than long (W/L ratio = 1.62), base widely rounded, fore angles not truncate, fore margin bisinuate with a thin smooth bead, pronotal sides and base with a thin bead; pronotal sculpturing as follows: disc smooth apart from micropunctuation, sides and base with some shallow comma-shaped punctures, sometimes fused together. Scutellar shield wider than long, sides distinctly notched by elytral articular process, converging to form a triangle with elongate acute apex and sides slightly curved inward. Surface slightly depressed in the middle, covered by irregular impressed comma-shaped punctures. Elytra convex, rounded (in



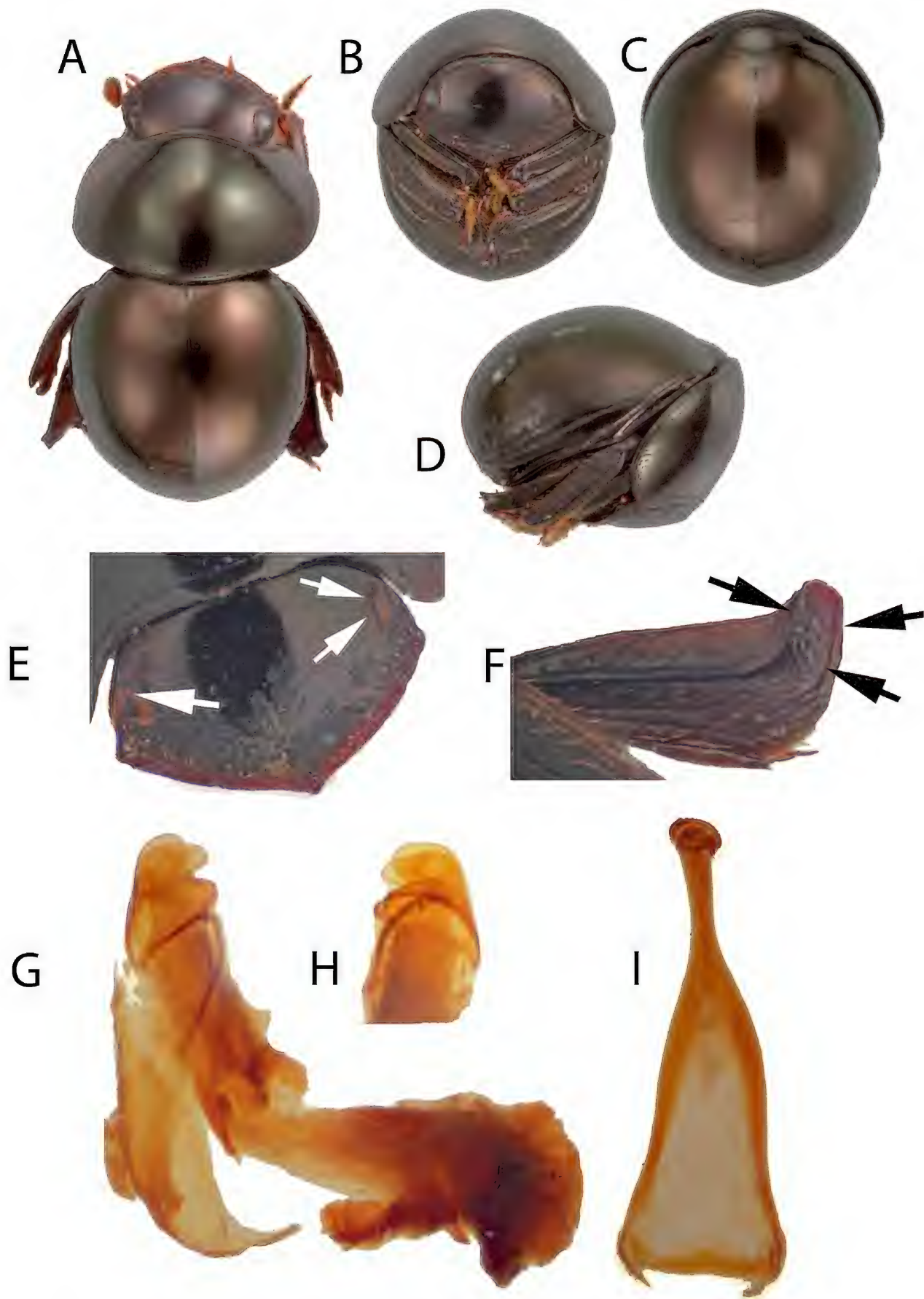


Figure 1. *Perignamptus kerleyi* sp. nov. paratypus from 4,5 km S of Barana vill. A – Extended, dorsal view; B – Enrolled, ventral view; C – Enrolled, dorsal view; D – Enrolled, lateral view. Paratypus from Mt. Austen; E – Head (white arrows on the right indicate inner longitudinal line, white arrow on the left indicates the genal canthus not fused with the occipital area of head); F – Metatibia (black arrows indicate the apical corbel); G – Aedeagus; H – other side of parameres; I – Ninth abdominal segment.



dorsal view), slightly longer than wide (W/L ratio = 0.97), sutural stria absent, humeral callus absent, whole surface glabrous and smooth (50x), apart from micropunctuation and the presence at sides of two longitudinal shallow wide furrows, parallel to inferior sutural stria, the dorsal one being shorter than the ventral one and occupying only distal third, while ventral one occupying median and distal third. Pseudoepipleure absent, marginal area narrow and smooth, inferior sutural stria present and reaching humeral area, striated articular area not visible, elytral articular process developed, smooth and shiny, separated from remaining elytral surface by a deep narrow furrow. Protibiae ending with two outer teeth, outer margin finely and irregularly serrate. Meso- and metatibiae ending with two apical spurs. Metatibiae with outer apex truncate forming a small, punctured “apical corbel” (sensu Ballerio & Grebennikov 2016). Male genitalia: aedeagus with parameres feebly asymmetrical, short, about 1/3 the length of basal piece.

Sexual dimorphism and variability: Males have the inner apical spur of mesotibiae bent inwards at a right angle, while female mesotibiae have both apical spurs straight. The type series does not show strong variability, apart from the development of larger pronotal punctation and the lateral elytral longitudinal furrows, which in the two female paratypes are very weak.

Remarks: *Perignamptus kerleyi* sp. nov. is a typical *Perignamptus*, with a morphology similar to *P. loriae* Gestro, 1898 and *P. sharpi* (Harold, 1877) (the latter being the type species of the genus), both from New Guinea, and the only other *Perignamptus* species known to have elytra smooth or finely punctate. It differs from *P. loriae* by: a) the presence of a longitudinal shallow line bordering internally dorsal ocular area, absent in *P. loriae*, b) the bead of pronotal base complete and narrow, whereas in *P. loriae* it is wide and interrupted in the middle, c) the punctation of pronotum, which, besides micropunctuation, is larger and limited to base and sides, whereas in *P. loriae* is smaller and uniformly distributed. It differs from *P. sharpi* by: a) the presence of a longitudinal shallow line bordering internally dorsal ocular area, whereas in *P. sharpi* the line is replaced by an irregular row of fine simple punctures, b) genal canthus not fused with occipital area of head, whereas in *P. sharpi* the genal canthus is fused with the occipital area of head, c) the bead of pronotal base complete and narrow, whereas in *P. sharpi* is wide and interrupted in the middle, d) the punctation of pronotum, which, besides micropunctuation, is larger and present on

base and sides, whereas in *P. sharpi* is completely absent. *Perignamptus kerleyi* sp. nov. also shows a large metatibial apical corbel, which in all other known species of *Perignamptus* is smaller or absent.

Distribution and habitat. Known only from Guadalcanal Island (Mt. Austen and surroundings of Barana village to the west of Mount Austen). The area is covered by lowland rainforest. The material collected by the Greenslades was found through bait trapping using carrion (although, based on our knowledge of Ceratocanthinae biology, it is unlikely the specimens were attracted by the carrion; it is more likely they ended up in the trap by random walking).

***Perignamptus capitatus* sp. nov.** (Figs 2 a, b, c, d & 6)

Holotypus ♂ deposited in the BMNH: Solomon Is., New Georgia, Wagina isl., 3/7 1966 (3218) P. Greenslade / Solomon Is., Pres. P. J. M. Greenslade, B. M. 1966.477/ *Perignamptus capitatus* n. sp. det. A. Ballerio 1999, Holotypus ♂ / [dissected and glued on a card. Male genitalia glued in DMHF resin on a separate card, same pin].

Paratypus: Allotypus 1♀ deposited in the BMNH: same data as holotypus (apart from identification label).

Derivatio nominis: Latin adjective meaning “headed”, due to the unusual shape of the head with the clypeal fore margin abruptly depressed.

Diagnosis. *Perignamptus capitatus* sp. nov. can be easily differentiated from all other species of *Perignamptus* by the following combination of characters: a) clypeal fore margin abruptly depressed with respect to remaining head surface, b) dorsal ocular area absent, c) pronotal discal punctation made of large deep simple punctures, d) elytral punctation made of shallow large horseshoe-shaped punctures, e) inferior sutural stria of elytra limited to distal third.

Description of holotypus: HL = 0.46 mm; HW = 0.68 mm; PL = 0.73 mm; PW = 1.13 mm; EL = 1.13 mm; EW = 1.06 mm. Small-sized *Perignamptus*, flightless, shiny, brown, antennae, tarsi and sternum reddish-brown. Dorsum setate (45x). Head subpentagonal, wider than long (W/L ratio = 1.41). Head: Clypeus subtriangular, with sides smooth and gently curved and clypeal apex broadly rounded. Fore margin of clypeus abruptly depressed with respect to remaining head surface all over its extension; clypeopleuron short, genae rounded and slightly protruding outwards, genal canthus indistinct, dorsal ocular area absent. Head dorsal surface with vertex covered by sparse





Figure 2. *Perignamptus capitatus* sp. nov. A – Dorsal view of holotypus; B – Aedeagus; C – Spermatheca of allotypus; D – Latero-dorsal view of holotypus.

large simple impressed punctures, frons almost impunctate with only few simple large punctures, clypeus with dense impressed horseshoe-shaped punctures with opening directed inwards, fore clypeal depression with some irregular simple longitudinal lines, interpunctural distance shorter or equal to punctural diameter; eyes small, longitudinally elongate. Antennae 10-segmented, scape slightly clavate distad, pedicel rounded and abruptly bent forwards distally, flagellum made of short articles distinctly wider than long, antennal club three-segmented, uniformly hairy. Mouthparts. Distal epipharynx bisinuate, longitudinally divided by a strong anterior median process; median brush and corypha absent; apical fringe made of long, fine setae, absent in the middle. Mentum ventrally flat, widely emarginated in the middle, emargination regularly wide-U-shaped; labial palpi (including

palpiger) four-segmented, first segment short and transverse, segment two short, segment three longer and plumper than preceding two together, segment four subconical, about as long as segment three, apically bearing some short sensilla, all segments, apart from the last one, fringed with long setae. Pronotum wider than long (W/L ratio = 1.85), roughly wide U-shaped, fore angles truncate and slightly sinuate externally, fore margin with a thick smooth bead, pronotal sides with a thin bead, pronotal base without any visible bead (dorsal view); pronotal sculpturing as follows: disc slightly raised with respect to remaining surface, extending backwards basally, whole surface, apart from sides, uniformly covered by large impressed simple punctures, with interpunctural distance mostly equal to punctural diameter; sides covered



by shallower large horseshoe-shaped punctation with interpunctural distance mostly shorter than punctural diameter. Scutellar shield wider than long, forming a triangle with elongate acute apex and sides slightly curved inward. Surface slightly depressed in the middle, covered by irregular impressed punctures. Elytra strongly convex, subovoidal (in dorsal view), slightly longer than wide (W/L ratio = 0.92), sutural interstria absent, humeral callus absent, whole surface covered by dense relatively impressed punctation, punctures near base small transverse comma-shaped with a setigerous pore internally, remaining surface covered by large horseshoe-shaped punctures with opening directed backwards, and a setigerous pore inside, interpunctural distance shorter than punctural diameter (punctures almost touching each other). Pseudoepipleure absent, marginal area broad, expanded outwards, coarsely wrinkled, inferior sutural stria limited to distal third, striated articular area not visible, elytral articular process developed, smooth and shiny, separated from remaining elytral surface by a deep narrow furrow. Protibiae ending with two outer teeth, outer margin almost smooth. Meso- and metatibiae ending with two apical spurs. Metatibiae with outer apex not truncate (apical corbel absent). Male genitalia: aedeagus with parameres feebly asymmetrical, short, about 1/8 the length of basal piece.

Sexual dimorphism and variability: Males have the inner apical spur of mesotibiae gently bent inwards, while female mesotibiae have both apical spurs straight. The allotypus has the head vertex almost impunctate.

Remarks: The large sparse impressed pronotal punctation and the abruptly depressed clypeal fore margin make this species unmistakable among all other known species of *Perignamptus*. The overall morphology of *P. capitatus* sp. nov., in particular the subsphaerical elytra and the lack of dorsal ocular area, place this species in a group formed by *P. longepilosus* sp. nov., *P. rendovaensis* sp. nov. and *P. mundaensis* sp. nov. See under *P. longepilosus* for a more detailed discussion.

Distribution and habitat: Known only from the type locality (Wagina Island, also known as Wiggina or Vaghena), a small island north of the New Georgia Islands and next to Choiseul Island in the Solomon Islands. No information is available about the collecting circumstances. The type locality is covered by rainforest.

***Perignamptus longepilosus* sp. nov.** (Figs 3 a, b, c & 6)

Holotypus ♂ deposited in the BMNH: Solomon IS., Kolombangara. S. Kuzi 4,000', 29.VIII.1965, P. Greenslade, Roy. Soc. Exped. Brit. Mus., 1966-I // litter c& d / *Perignamptus longepilosus* n. sp. det. A. Ballerio 2000, Holotypus ♂ / [dissected and glued on a card. Male genitalia and mouthparts glued in DMHF resin on two separate cards, same pin].

Derivatio nominis: Latin adjective meaning "with long setation", due to the presence of rows and patches of setae longer than the other dorsal setation and longer than the setation found in the other species.

Diagnosis: *Perignamptus longepilosus* sp. nov. can be easily differentiated from all other species of *Perignamptus* by the following combination of characters: a) dorsal ocular area absent, b) clypeal disc with fine sparse punctation, c) head with a short weak smooth tubercle on vertex, d) presence of two patches of denser and longer setae in correspondence with the two paradiscal pronotal gibbositities, e) inferior sutural stria of elytra limited to distal third, f) pronotal and elytral punctation made of shallow dense punctures, g) elytra strongly convex (subsphaerical).

Description of holotypus: HL = 0.55 mm; HW = 0.97 mm; PL = 0.98 mm; PW = 1.50 mm; EL = 1.50 mm; EW = 1.45 mm. Small-sized *Perignamptus*, flightless, shiny, brown, antennae, tarsi and sternum reddish-brown. Dorsum setate (45x). Head subpentagonal, wider than long (W/L ratio = 1.41), clypeus subtriangular, with sides smooth and gently curved and clypeal apex broadly rounded; clypeopleuron short, genae rounded and slightly protruding outwards, genal canthus indistinct, dorsal ocular area absent. Vertex in the middle with a smooth weak tubercle. Head dorsal surface setate, setae short, vertex covered by some shallow transverse lines, frons slightly and gently raised, frons and clypeal disc covered by sparse simple punctures (interpunctural distance being at least twice the punctural diameter, but often more than twice), fore margin and sides with some transverse shallow lines. Antennae 10-segmented, scape slightly clavate distad, pedicellus rounded and abruptly bent forwards distally, flagellum made of short articles distinctly wider than long, antennal club three-segmented, uniformly hairy. Mouthparts. Distal epipharynx bisinuate, longitudinally divided by a strong anterior median process; median brush and corypha absent; apical fringe made of long, fine setae, absent in the middle. Mentum



ventrally flat, widely emarginated in the middle, emargination regularly wide-U-shaped; labial palpi (including palpiger) four-segmented, first segment short and transverse, segment two short, segment three longer and plumper than preceding two together, segment four subconical, about as long as segment three, apically bearing some short sensilla, all segments, apart from the last one, fringed with long setae. Mandibles short, regularly curved, apicalis with pointed apical tooth very short and blunt, not protruding over mesal brush, lateral sclerite of apicalis bearing a distinct large pore, mesal brush wide and well developed. Pronotum wider than long (W/L ratio = 1.58), roughly wide U-shaped, fore angles gently subtruncate, fore margin bisinuate with a thin smooth bead, pronotal sides and base with a thin bead; pronotal sculpturing as follows: disc slightly raised with respect to remaining surface, slightly

extending backwards basally, two gibbosities at each side of disc (paradiscal gibbosities), whole surface covered by setae longer than the ones on head, setae on paradiscal gibbosities, fore angles and base denser and longer than the others, disc covered by fine simple shallow punctures mixed to irregular horseshoe-shaped shallow punctures with opening directed outwards, sides of disc uniformly covered by dense shallow large horseshoe-shaped punctures, sometimes becoming ocellate, horseshoe-shaped punctation with interpunctural distance shorter than punctural diameter. Scutellar shield wider than long, forming a triangle with elongate acute apex and sides slightly curved inwards. Surface slightly depressed in the middle, covered by irregular impressed punctures. Elytra strongly convex, almost rounded (in dorsal view), about as long as wide (W/L ratio= 1.00), sutural interstria absent, humeral callus absent, whole

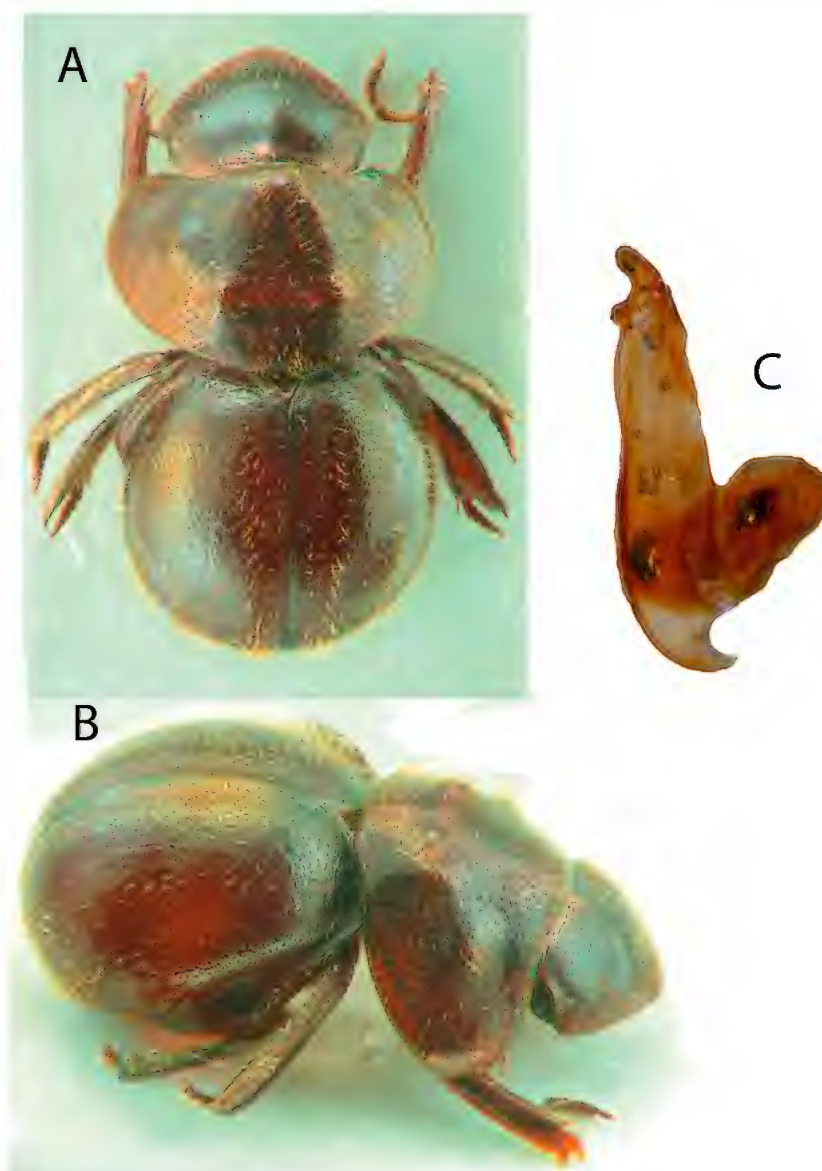


Figure 3. *Perignamptus longepilosus* sp. nov. holotypus. A – Dorsal view; B – Latero-dorsal view; C – Aedeagus.



surface covered by dense shallow punctation, some transverse lines near base then remaining surface covered by dense shallow large horseshoe-shaped punctures with opening mostly directed backwards, each one bearing a simple puncture in the middle, interpunctural distance shorter than punctural diameter (punctures almost touching each other), punctures as large as pronotal ones, setation about as long as pronotal one, with two irregular longitudinal rows of longer setae parallel to elytral suture. Pseudoepipleure absent, marginal area broad, expanded outwards, coarsely wrinkled, inferior sutural stria limited to distal third, striated articular area not visible, elytral articular process developed, smooth and shiny. Protibiae ending with three outer teeth, outer margin almost smooth. Metatibiae with outer apex not truncate (apical corbel absent). Male genitalia: aedeagus with parameres feebly asymmetrical, short, about 1/5 the length of basal piece. Abdominal ninth segment with apodeme slightly longer than basal triangle.

Remarks: *Perignamptus longepilosus* sp. nov. together with *P. capitatus* sp. nov., *P. mundaensis* sp. nov., and *P. rendovaensis* sp. nov. form a distinctive group within the genus *Perignamptus*. These four species are characterized by the following combination of characters: a) dorsal ocular area absent, b) strongly convex (subsphaerical) elytra, c) inferior sutural stria limited to distal third. This group of species shares with the other species of *Perignamptus* the presence of a basal pore on mandibles, the expanded third labial palpomere, the shape of epipharynx, the subclavate antennal scape, and the feebly asymmetrical short parameres. Despite the clear differences with respect to the other known *Perignamptus* species I prefer not to assign the above mentioned four new species to a separate new genus, due to the strong morphological variability present within the *Perignamptus* group of genera, as defined by Ballerio (2009, 2018). The genus *Perignamptus*, apart from the five new species here described, includes four other species: *P. carinipennis* Gestro, 1898, *P. loriae* Gestro, 1898, *P. rossi* Paulian, 1978 and *P. sharpi* (Harold, 1877), the type species of the genus. The author is aware of several undescribed species, mainly from New Guinea and, based on the author's unpublished data, it is also quite clear that *Macrophilharmostes major* (Paulian, 1975) is actually a true *Perignamptus* and that the two species of *Madrasostes* described by Paulian from localities east of the Weber Line, i. e., *M. granulatum* (Paulian, 1975) and *M. loebli* Paulian, 1981, are true *Perignamptus* too. It must be stressed that

the differentiation between the genus *Madrasostes* Paulian, 1975 and the genus *Perignamptus* is quite debatable at the state of the art and a careful re-assessment of the two genera is needed.

Distribution and habitat. Known only from the type locality. Kolombangara Island belongs to the New Georgia Islands in the Western Province of the Solomon Islands. No information is available about the collecting circumstances apart from the indication "litter". The type locality is covered by rainforest.

***Perignamptus mundaensis* sp. nov.** (Fig 4 a, b, c, d, e & 6)

Holotypus ♂ deposited in the BMNH: Solomon Islands, New Georgia, Munda 22384, 5-II-1966, P. Greenslade, B. 1966 - I / *Perignamptus mundaensis* n. sp. det. A. Ballerio 2000, Holotypus ♂ /. [dissected and glued on a card. Male genitalia glued in DMHF resin on a separate card, same pin].

Paratypes 2♀: same data as holotypus (BMNH).

Derivatio nominis: Latin adjective meaning "from Munda", after the type locality.

Diagnosis: *Perignamptus mundaensis* sp. nov. can be easily differentiated from all other species of *Perignamptus* by the following combination of characters: a) clypeal disc with irregular comma-shaped shallow punctures and some horseshoe-shaped punctures mixed to few simple fine punctures, b) head with a short weak smooth tubercle on vertex, c) dorsal ocular area absent, d) pronotal and elytral punctation made of shallow dense horseshoe-shaped punctures mixed to ocellate punctures (sides of pronotum with ocellate punctures only), e) inferior sutural stria of elytra limited to distal third, f) elytra strongly convex (subsphaerical).

Description of holotypus: HL = 0.64 mm; HW = 0.93 mm; PL = 0.97 mm; PW = 1.46 mm; EL = 1.55 mm; EW = 1.49 mm. Small-sized *Perignamptus*, flightless, shiny, brown, antennae, tarsi and sternum reddish-brown. Dorsum setate (45x). Head subpentagonal, wider than long (W/L ratio = 1.53), clypeus subtriangular, with sides smooth and gently curved and clypeal apex broadly rounded; clypeopleuron short, genae rounded and slightly protruding outwards, genal canthus indistinct, dorsal ocular area absent. Vertex with in the middle a short longitudinal smooth weak tubercle; head dorsal surface setate, setae short, vertex covered by some shallow transverse lines, frons slightly and gently raised, frons and clypeal disc covered by a mixture of shallow large horseshoe-shaped punctures and



comma-shaped punctures (interpunctural distance being shorter than punctural diameter punctures almost touching each other) mixed to few fine simple punctures, fore margin and sides with some transverse shallow lines. Antennae 10-segmented, scape slightly clavate distad, pedicel rounded and abruptly bent forwards distally, flagellum made of short articles distinctly wider than long, antennal club three-segmented, uniformly hairy. Pronotum wider than long (W/L ratio = 1.75), roughly wide U-shaped, fore angles strongly truncate, fore margin bisinuate with a thin smooth bead, pronotal sides and base with a thin bead; pronotal sculpturing as follows: disc slightly raised with respect to remaining surface, slightly extending backwards basally, two gibbosities at each side of disc (paradiscal gibbosities), whole surface covered by setae longer than the ones on head, whole pronotal surface uniformly covered by dense shallow large horseshoe-shaped punctures, often becoming ocellate, sides of pronotum with dense large

ocellate punctures only, interpunctural distance shorter than punctural diameter (punctures almost touching each other). Scutellar shield wider than long, forming a triangle with elongate acute apex and sides slightly curved inward. Surface slightly depressed in the middle, covered by irregular impressed punctures. Elytra strongly convex, subsphaerical (dorsal view), slightly longer than wide (W/L ratio = 0.95), sutural interstria absent, humeral callus absent, whole surface covered by dense shallow punctation, elytral suture marked by a dense fine simple punctation, remaining surface covered by dense shallow large horseshoe-shaped punctures with opening mostly directed backwards, each one bearing a simple puncture in the middle, interpunctural distance shorter than punctural diameter (punctures almost touching each other), punctures as large as pronotal ones, setation about as long as pronotal one. Pseudoepipleure absent, marginal area broad, expanded outwards, coarsely wrinkled, inferior sutural stria limited to distal third,

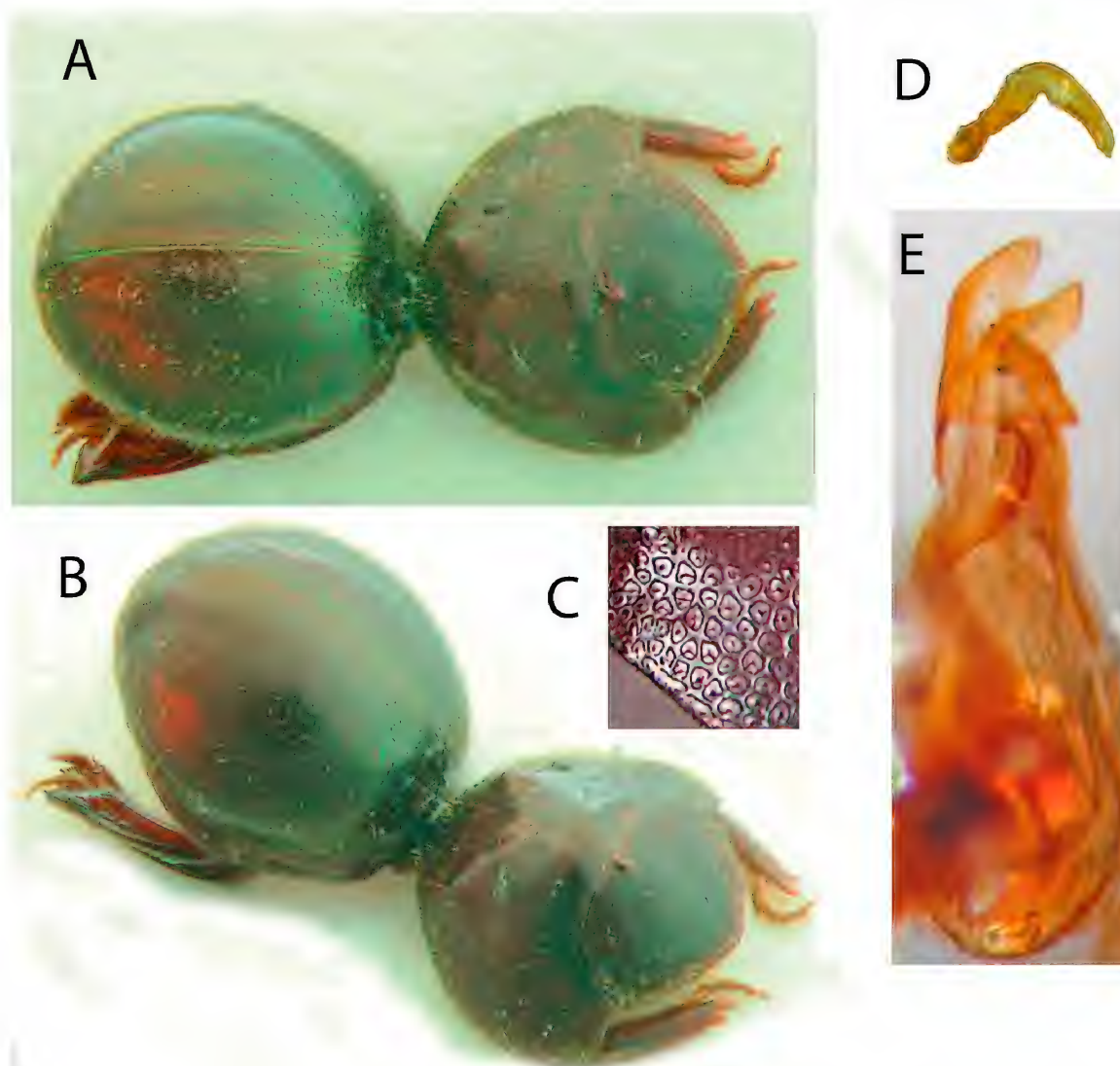


Figure 4. *Perignamptus mundaensis* sp. nov. holotypus. A – Dorsal view; B – Latero-dorsal view; C – Detail of pronotal sides; D – Spermatheca of allotypus; E – Aedeagus.



striated articular area not visible, elytral articular process developed, smooth and shiny. Protibiae ending with two outer teeth (a third one very small, hardly visible), outer margin almost smooth. Meso- and metatibiae ending with two apical spurs. Metatibiae with outer apex not truncate (apical corbel absent). Male genitalia: aedeagus with parameres feebly asymmetrical, short, about 1/3 the length of basal piece.

Sexual dimorphism and variability: Males have the inner apical spur of mesotibiae gently bent inwards, while female mesotibiae have both apical spurs straight.

Remarks: Very similar to *P. rendovaensis* sp. nov. from which differs by the punctuation pattern of pronotum and elytra (see Diagnosis). See also under *P. longepilosus* sp. nov. for a detailed discussion.

Distribution and habitat: Known only from the type locality. Munda is a settlement located in the island of New Georgia in the Western Province of the Solomon Islands. No information is available about the collecting circumstances. The type locality is covered by rainforest.

***Perignamptus rendovaensis* sp. nov.** (Figs 5 a, b, c, d, e, f, g, h & 6)

Holotypus ♂ deposited in the BMNH: Solomon Islands, New Georgia, Rendova Is., 15.16:IV:66, P. Greenslade, Roy. Soc. Exped. B. M. 1966 - I / *Perignamptus rendovaensis* n. sp. det. A. Ballerio 1999, Holotypus ♂ / [dissected and glued on a card. Male genitalia glued in DMHF resin on a separate card, same pin].

Paratypes 7 specimens (2♂, 4♀, 1 sex unstated): same data as holotypus (6 BMNH & 1 ABCB).

Derivatio nominis: Latin adjective meaning “from Rendova”, after the type locality.

Diagnosis: *Perignamptus rendovaensis* sp. nov. can be easily differentiated from all other species of *Perignamptus* by the following combination of characters: a) clypeal disc with dense fine punctuation mixed to irregular comma-shaped shallow punctures and some horseshoe-shaped punctures, b) dorsal ocular area absent, c) pronotum with disc covered by simple fine punctures and few long shallow irregular lines mixed to comma-shaped punctures, d) elytral punctuation made of shallow dense horseshoe-shaped punctures becoming ocellate only on distal third, e) inferior sutural stria limited to distal third, f) elytra strongly convex (subsphaerical).

Description of holotypus. HL = 0.53 mm; HW = 0.82 mm; PL = 0.88 mm; PW = 1.30 mm; EL = 1.40 mm; EW = 1.33 mm. Small-sized *Perignamptus*,

flightless, shiny, brown, antennae, tarsi and sternum reddish-brown. Dorsum setate (45x). Head subpentagonal, wider than long (W/L ratio = 1.50), clypeus subtriangular, with sides smooth and gently curved and clypeal apex broadly rounded; clypeopleuron short, genae rounded and slightly protruding outwards, genal canthus indistinct, dorsal ocular area absent. Vertex with in the middle a short longitudinal smooth weak tubercle; head dorsal surface setate, setae short, vertex covered by some shallow transverse lines, frons slightly and gently raised, frons and clypeal disc covered by a mixture of shallow small comma-shaped punctures, oriented centrifugally and several shallow fine simple punctures (interpunctural distance of comma-shaped punctures being shorter than punctural diameter), fore margin and sides with some transverse shallow long lines. Antennae 10-segmented, scape slightly clavate distad, pedicel rounded and bent forwards distally, flagellum made of short articles distinctly wider than long, antennal club three-segmented, uniformly hairy. Mouthparts. Distal epipharynx bisinuate, longitudinally divided by a strong anterior median process; median brush and corypha absent; apical fringe made of long, fine setae, absent in the middle. Mentum ventrally flat, widely emarginated in the middle, emargination regularly wide-U-shaped; labial palpi (including palpiger) four-segmented, first segment short and transverse, segment two short, segment three longer and plumper than preceding two together, segment four subconical, about as long as segment three, apically bearing some short sensilla, all segments, apart from the last one, fringed with long setae. Mandibles short, regularly curved, apicalis with pointed apical tooth very short and blunt, not protruding over mesal brush, lateral sclerite of apicalis bearing a distinct large pore, mesal brush wide and well developed. Pronotum wider than long (W/L ratio = 1.69), roughly wide U-shaped, fore angles strongly truncate, fore margin feebly bisinuate with a thin smooth bead, pronotal sides and base with a thin bead; pronotal sculpturing as follows: disc slightly raised with respect to remaining surface, slightly extending backwards basally, two very weak gibbosities at each side of disc (paradiscal gibbosities), pronotal disc covered by simple fine punctures and few long shallow irregular lines mixed to comma-shaped punctures, pronotal sides covered by large horseshoe-shaped punctures mixed to few ocellate punctures, interpunctural distance shorter than punctural diameter (punctures almost touching each other). Scutellar shield wider than long, with



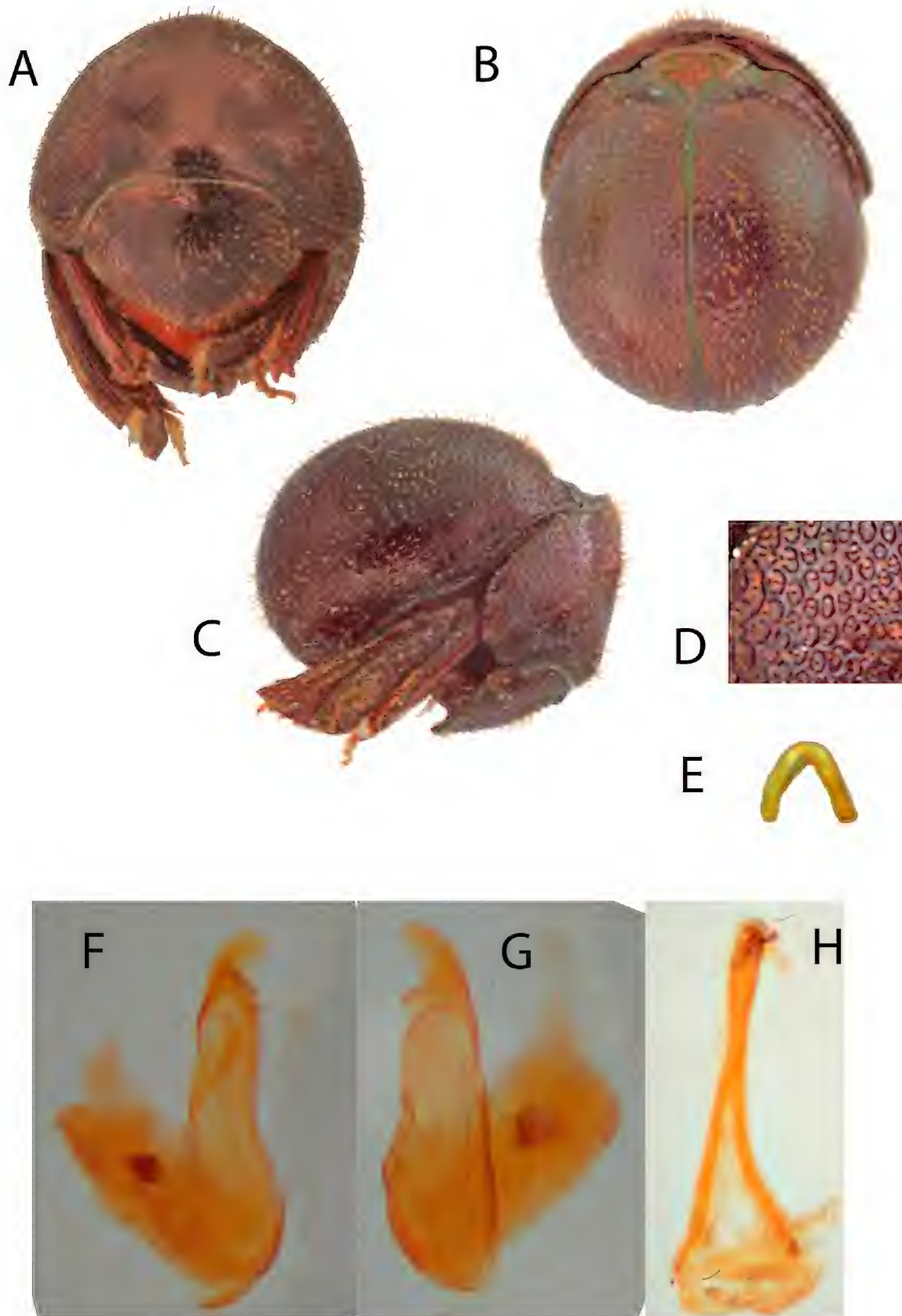


Figure 5. *Perignamptus rendovaensis* sp. nov., paratype. A – Enrolled, ventral view; B – Enrolled, dorsal view; C – Enrolled, lateral view; D – Detail of pronotal sides; E – Spermatheca; F – Aedeagus; G – Aedeagus; H – Ninth abdominal segment.



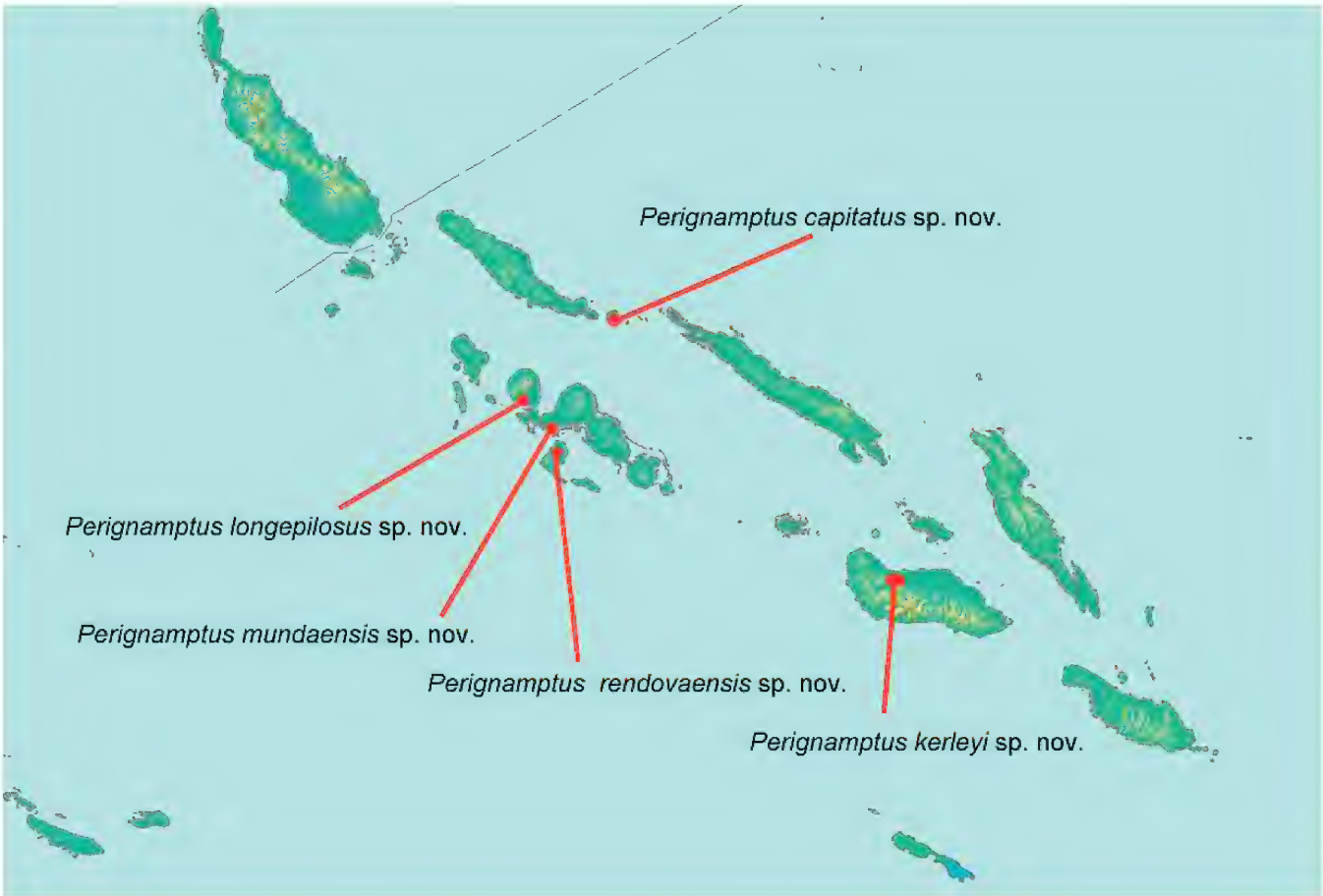


Figure 6. Distribution map showing the type localities of *Perignamptus* within the Solomon Islands archipelago.

elongate acute apex and sides slightly curved inward. Surface slightly depressed in the middle, covered by irregular impressed simple punctures. Elytra strongly convex, subsphaerical (dorsal view), almost as long as wide (W/L ratio= 1.04), sutural interstria absent, humeral callus absent, whole surface covered by dense punctation made of large horseshoe-shaped punctures with opening mostly directed backwards, each one bearing a simple puncture in the middle, interpunctural distance shorter than punctural diameter (punctures almost touching each other), punctures as large as pronotal ones, setation about as long as pronotal one. Pseudoepipleure absent, marginal area broad, expanded outwards, coarsely wrinkled, inferior sutural stria limited to distal third, striated articular area not visible, elytral articular process developed, smooth and shiny. Protibiae ending with two outer teeth, outer margin almost smooth. Meso- and metatibiae ending with two apical spurs. Metatibiae with outer apex not truncate (apical corbel absent). Male genitalia: aedeagus with parameres almost symmetrical, short, about 1/3 the length of basal piece. Sexual dimorphism and variability: Males have the inner apical spur of mesotibiae gently bent inwards, while female mesotibiae have both

apical spurs straight. Some paratypes have some horseshoe-shaped punctures even on pronotal disc. Remarks: See above under *P. mundaensis* sp. nov. and under *P. longepilosus* sp. nov. for a detailed discussion. Distribution and habitat: Known only from the type locality. Rendova Island belongs to the New Georgia islands in the Western Province of the Solomon Islands. No information is available about the collecting circumstances. The type locality is covered by rainforest.

Key to the Solomon Islands Ceratocanthinae

An identification key is provided in order to identify the species here described. The key includes both the genus *Pterorthochaetes* Gestro, 1898, which occurs in the Solomons based on the author's unpublished data, and the genus *Cyphopisthes* Gestro, 1898 for which no data are known but whose presence in the Solomon Islands is possible, since the genus occurs in New Guinea and in Australia (Queensland), with an old record for New Caledonia too (Ballerio 2013).



- 1 Antennae 9-segmented, labrum not truncate, somewhat depressed distally, elytra without a distinct pseudopipleuron *Pterorthochaetes* Gestro
– Antennae 10-segmented, labrum truncate or not truncate, pseudopipleure absent or present 2
- 2 Labrum subtruncate, elytra with a distinct pseudopipleure *Cyphopisthes* Gestro
– Labrum not truncate, somewhat depressed distally, elytra regularly rounded (sagittal view) 3 *Perignamptus*
- 3 Larger species (>4 mm), elytra impunctate (50x), color metallic green, dorsal ocular area present
..... *P. kerleyi* sp. nov.
– Smaller species (<3 mm), elytra uniformly punctate (50x), color dark brown to reddish-brown, dorsal ocular area absent 4
- 4 Vertex of head without a smooth weak tubercle, fore margin of clypeus abruptly depressed, pronotal punctation large, impressed and sparse
..... *P. capitatus* sp. nov.
– Vertex of head with a weak smooth tubercle, fore margin of clypeus on the same plane of remaining head surface, pronotum with dense small shallow punctation 5
- 5 Head with clypeal disc with fine sparse punctation
..... *P. longepilosus* sp. nov.
– Head with clypeal disc densely punctate 6
- 6 Pronotal sides with ocellate punctures, remaining pronotal and elytral punctation made of shallow dense horseshoe-shaped punctures mixed to ocellate punctures *P. mundaensis* sp. nov.
– Pronotum with disc covered by simple fine punctures and few long shallow irregular lines mixed to comma-shaped punctures, sides with horseshoe-shaped punctures, elytral punctation made of shallow dense horseshoe-shaped punctures becoming ocellate only on distal third *P. rendovaensis* sp. nov.

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